



Intracytoplasmic Sperm Injection Improves Fertilization And High Quality Embryos Rates In Non Male Factor Infertility Patients Aged >35.

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INTRODUCTION

The use of ICSI in patients with non male factor infertility has been the subject of an ongoing controversy. Semen parameters cannot predict sperm fertilization potential in IVF and total failure or low fertilization rate is expected in up to 30% in unexplained infertility. Moreover, female age has a direct association to oocyte quality and low fertilization rate. Hence, many clinicians use ICSI as a preferred therapeutic approach in such patients. However, ICSI is an additional laboratory intervention that should be justified before implementation.

Objective: To determine the value of the routine use of intracytoplasmic sperm injection (ICSI) in the first IVF cycle of non male factor infertile patients aged >35 in terms of fertilization and high quality embryo rates.

Patients and Study Design: Our IVF unit routine is to perform 50% ICSI in all our non male factor infertility patients in their first IVF cycle. A sibling oocytes study model was used to compare between ICSI and conventional insemination (CI).

All patients >35 years treated during the last 10 in whom 6 or more oocytes were retrieved were included. High quality embryo were defined as 2-4 cells with <10% fragmentation on day 2 and 6-8 cells with <10% fragmentation on day 3. Statistical analysis using paired Wilcoxon test was used.

Results: The study population comprised 52 patients in whom 483 oocytes were collected. Median number of oocytes retrieved per cycle was 9 (range 6-12). Median number of oocytes undergoing IVF and ICSI were 4 (3-14) and 4 (3-9) respectively. The fertilization rate in the ICSI treated oocytes was 71.2%

compared to 50.9% in the CI group ($P<0.001$). High quality embryos rate was 71.2% following ICSI compared to 46.6% following CI ($P<0.001$).

Patients were also subdivided to age groups of 35-39 and 40-45 years. In the 35-39 age group, the fertilization rates were 73.8% vs. 49.3% ($P<0.001$) and the high quality embryo rates were 68.4% vs. 43.1% ($P<0.001$) in the ICSI vs. CI oocytes, respectively. In the age group of 40-45, the fertilization rates were 67.3% vs. 53.8% ($P=0.057$) and the high quality embryo rates were 66.3% vs. 52.7% ($P=0.057$) in the ICSI vs. CI oocytes, respectively.

Conclusions: This study favors the use of ICSI in patients >35 years with non male factor infertility. Further studies are needed to determine the effects of ICSI on cumulative pregnancy and live birth rates upper age range of the IVF population.